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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,239	09/24/2004	Johannes Johanna Van Herk	NL020256US	1780

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
HOLMES, REX R	

ART UNIT	PAPER NUMBER
3762	

MAIL DATE	DELIVERY MODE
11/24/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,239	VAN HERK ET AL.	
	Examiner	Art Unit	
	REX HOLMES	3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6,9-11,15-18,20,21 and 23-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6,9-11,15-18,20,21 and 23-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/30/10*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 6, 9-11, 15-18 and 20-21 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunseath, Jr. (U.S. Pat. 4,669,479 hereinafter "Dunseath") in view of Lundback (U.S. Pat. 4,646,747).

Regarding claims 1-2, 6, 9-11, 15-18 and 20-21 and 23-27, Dunseath teaches that it is known to use conductive elastic materials for electrodes and to connect them with elastic straps as set forth in (e.g. Col. 4, ll. 32-62; ; Col. 7, ll. 38-53) to provide an electrode that can conform to the body and maintain intimate contact with the skin. Dunseath further discloses that the system is connected to an external monitor for

power and analysis (e.g. Col. 6, ll. 13-19). Dunseath discloses the claimed invention except for the elastic electrode having projections on its surface. However, Lundback discloses an electrode (e.g. 1) with a surface exhibiting uniform projections (e.g. 4) to provide good contact especially in cases wherein there is hair growth on the skin (e.g. Fig. 1, Col. 3, ll. 51-57). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the conductive surface as taught by Dunseath, with the surface projections as taught by Lundback, since such a modification would provide the predictable results of an electrode with a conductive elastic surface with projections for providing a conductive surface that can conform to the body and maintain intimate contact with the skin even if there is hair growth.

Further it is well known in the art to use the same material for the projections to reduce costs and ease of production as the electrode and projections can be made at the same time.

4. In the alternative, Dunseath in view of Lundback discloses the claimed invention except for explicitly stating that the electrode and projections are made of the same material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

5. Claims 9-11, 18 and 20-21, are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers et al. (U.S. Pat. 4,969,468 hereinafter "Byers") in view of Booker et al. (U.S. Pub. 2003/0114906 hereinafter "Booker").

Regarding claims 11 and 18, Byers discloses a electrode array for sensing physiological signals through the skin, made out of a conductive flexible/stretchable material with projections made out of metal that are arranged in a uniform pattern on the surface of the electrode (e.g. Col. 7, ll. 18-25; Col. 10, ll. 22-30; Col. 12, ll. 25-40; Figs. 4-6). Byers further discloses that the electrode body is sandwiched between two insulating layers with the tips of the projections sticking through the layers (e.g. Fig. 4 ("8" & "10") & Col. 6, ll. 38-53) but fails to discloses that the projections and electrode backing are elastic and are used in combination with a storage and analysis device. However Booker discloses a system for monitoring ecg, evaluating ecg and then stimulating that utilizes elastic electrodes (23) with elastic projections (23) to provide a electrode that can conform to tissue so that it maintains constant contact(Fig. 9, ¶42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Byers, with elastic electrodes and projections as taught by Booker, since such a modification would provide the electrodes and projections with elastic properties for providing the predictable result of elastic electrodes with projections that conform to tissue and maintain constant contact without moving.

6. **Regarding claims 9-10 and 20-21,** Byers in view of Booker teaches the claimed invention except for the elastic layer being a conductive rubber and the insulating layers being plastic. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the elastic layer with a conductive rubber and the insulating layer with a plastic, since it has been held to be within the general

skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Booker as applied to claim 7 above, and further in view of Ingman (U.S. Pub. 2002/0082668).

8. **Regarding claim 12**, Byers in view of Booker discloses the claimed invention except for the holes to collect sweat and prevent short circuiting. Ingman teaches that it is known to use holes in the electrode as set forth in Paragraph 16 to prevent sweat from short circuiting the conducting layer of the electro-patch. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electrode as taught by Byers in view of Booker, with holes through the electrode as taught by Ingman, since such a modification would provide the predictable result of a electrode with holes to prevent sweat from short circuiting the conducting layer of the electrode. Further it would have been obvious to one having ordinary skill in the art to put the holes between the projections as the only place to put the holes in the body of the electrode would be in the spaces between the projections.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Booker and further in view of Granek et al. (U.S. Pat. 4,729,377 hereinafter "Granek").

Regarding claim 19, Byers in view of Booker discloses a electrode array for sensing physiological signals through the skin, made out of a conductive flexible/stretchable material with projections made out of metal that are arranged in a uniform pattern on the surface of the electrode but fails to disclose that the electrodes are positioned on a garment. However Granek discloses a system that uses a garment to connect and hold flexible electrodes near the body in a secure way for sensing and stimulation purposes as set forth in Columns one and two. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Byers, with a garment to secure electrodes to the body as taught by Granek, since such a modification would provide the predictable results of a way of holding electrodes with a garment for providing a secure way to position electrodes on a body in a comfortable and organized way.

Response to Arguments

10. Applicant's arguments filed 12/31/09 have been fully considered but they are not persuasive. The Applicant argues that the combination of Dunseath and Lundback would be create a pad fixed to a rigid plate making a rigid not flexible electrode. Applicant further the combination teaches away each of the inventions. In this argument the Applicant combines the flexible elastic pad of Dunseath with the rigid plate of Lundback. However, Lundback was not cited for its rigid plate. As disclosed below and in the prior office action, Lundback was cited for the teaching of having uniform projection to provide uniform and good contact. Therefore, the Applicant's arguments are moot. It would have been obvious to one having ordinary skill in the art at the time

the invention was made to have modified Dunseath with the projections of Lundback to provide the predictable results of an electrode with projections for providing increased contact in cases where the electrode is applied over hair.

11. The Applicant further argues that the Examiner did not provide reference to a fabric elastic belt or garment as disclosed in claims 6 or 17. The Examiner respectfully disagrees and would like to direct the Applicant's attention to Dunseath (e.g. Col. 4, ll. 32-62 and Col. 7, 38-58) wherein it is disclosed that the electrodes are connected with elastic straps. It is noted that elastic straps meet the limitations of a belt and a garment.

12. Regarding claims 9-12 and 18-20, the Applicant argues that Neither Dunseath nor Lundback provide an electrode with a layer of conductive elastic material and a plurality of metallic elements pressed into it. It is noted that claim 18 is a product by process claim and event though the claims are limited by and defined by the process, determination of patentability is based on the product itself. Therefore, the combination of Dunseath with the conductive elastic layer with the projections of Lundback in it teaches the claimed invention.

13. The Applicant further argues that neither reference teaches electrically conductive rubber. The Examiner would like to direct the Applicant's attention to (Col. 4, ll. 32-62 and Col. 7, ll. 38-83 "regarding the conductive elastic materials.)

14. The Applicant argues that neither Byers nor Booker teach the claimed invention and that in prior actions the combination of the references was either withdrawn or not used. The Examiner notes that after further review, the combination was determined to teach the claimed invention and that the reasons are stated below and in the prior

action in the 103 rejections. The Applicant further argues that the neither reference teaches a conductive elastic material with metallic elements pressed into them. As noted above claim 18 is a product by process claim and event though the claims are limited by and defined by the process, determination of patentability is based on the product itself. Therefore, the combination of Byers and Booker teaches a conductive elastic layer with the projections and therefore anticipates the claim.

15. Regarding the Applicants remarks regarding the claims 23 and 25-27 see the responses above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REX HOLMES whose telephone number is (571)272-8827. The examiner can normally be reached on M-F 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Niketa Patel can be reached on (571) 272-4156. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. H./
Examiner, Art Unit 3762

/George R Evanisko/
Primary Examiner, Art Unit 3762